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ABSTRACT

The role of art therapy is considered in working with such high risk groups as the institutionalized, mentally retarded, elderly, visually impaired, physically handicapped, asthmatic, hyper- and hypo-active children, hearing impaired, and patients on mind altering drugs. The special risks of infectious diseases (such as serum hepatitis), and contact with art chemicals (and possible interaction with medication) are discussed. Guidelines for choosing safe art materials focus on knowing the students/patients (including their physical and psychological needs) and understanding the attributes of a safe art material (such as non allergenic or nontoxic ingredients and safe procedures). The author suggests that the art-as-project approach may need to be reexamined in light of safety considerations. (CL)

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This will be listed on our new publication list next month. MR

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TEACHING ART TO HIGH RISK GROUPS

By Monona Rossol, M.S., M.F.A.

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Teaching Art to High Risk Groups (Part I)

The Problem

A phone call or letter asking a question I never considered before often sparks my interest in a new art hazards area. I became interested in the special problems of teaching art to high risk populations in hospitals and institutions in just this way.

The question came from a pottery teacher who worked with institutionalized patients, many of whom were carriers of the disease called hepatitis B. She wondered if wet clay would make a good medium for passing this disease from one patient to another.

I consulted with two doctors who are infectious disease experts, and quickly learned that the problem is not trivial, because a significant portion of institutionalized people either have hepatitus B or are carriers. Estimates of the number of institutionalized mentally retarded who are carriers range from 7 to 35 per cent. And the problem extends to the general population as well, in which an estimated 3 per cent are carriers.

The experts added that the clay indeed could serve as a medium to transmit the disease. One doctor felt this was especially true if patients did not wash their hands well before using the clay, if they were to use saliva to wet or smooth the clay, or if they engaged in frequent hand-to-mouth or hand-to-eye contact —a common trait among many retarded.

The expert's answers can be clarified and augmented by some of the facts about hepatitis B.

Hepatitis B, sometimes known as "serum hepatitis," is characterized in its acute form by loss of appetite, nausea, vomiting, fatigue, and headache, followed by jaundice. It is transmitted by a virus found in infected individuals' blood and other body fluids such as saliva and semen.

The most frequent method of transmitting the virus is direct innoculation with contaminated needles. However, there are two other important means of contracting the virus: 1) transfer of infective serum (for example, saliva) or plasma (blood) through small, often unrecognized breaks n the surface of the skin, as well as through larger skin lesions such as burns or scratches; and 2) by introduction of the infective serum or plasma onto inner (mucosal) surfaces of the mouth or eyes.

To reduce the chance that bits of infected blood, saliva, or other body secretions will be passed from one person to another, scrupulous personal hygiene is necessary. One hospital publication offered a number of precautions including frequent, careful, and vigorous hand washing, not sharing bar soap, keeping nails trimmed to avoid scratches, and taking care not to cause breaks in the skin from cuts, abrasions, or dry skin. The publication recommended using hand lotion to prevent chapping. In addition, surfaces such as floors, doorknobs, countertops, and desks should be cleaned and disinfected frequently; close contact between individuals should be discouraged; toilet articles should not be shared; and tools which could cause cutting injuries should not be shared.

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Many of these precautions would be very difficult to carry out faithfully in an art class, especially when students are mentally retarded. Teaching methods would have to be altered radically to accommodate the unwelcome classroom presence of the hepatitis B virus.

Besides hepatitus B, many other problems must be considered when planning teaching methods for the mentally retarded. Are there other infectious diseases with different transimittal patterns which might be present? Are there patients who may be more susceptible than the general population to toxic ingredients in art material because of poor health or age, or because they are more likely to ingest or inhale the materials? Are there chemicals in some art supplies which might interact with medications patients are taking?

Asnwers to these questions and many more must be found by experts, then accommodations must be made in art projects for the retarded. At present, however, art instruction in hospitals and institutions is not always in experts' hands. Often volunteers—local artists and craftspeople, general teachers, and the like—do the teaching. These people may be very competent in their own fields, but they lack the special knowledge needed to teach the retarded safely and effectively.

Projects led by artists and craftspeople often appear very successful because the final product—the art work—looks good. One such project,considered by many to be a model activity for the retarded was the brainchild of a woman who operated her own ceramic studio. She set up a ceramic studio for the retarded. Originally funded by county taxes, the studio has become self-supporting and produces for sale more than 100,000 ceramic items annually.

This studio employs 40 retarded individuals at a time. They range from slow learners to the severely retarded, and some have physical handicaps as well. These individuals labor, assembly-line fashion, for more than four hours a day, five days a week to produce ceramic vases, ashtrays, and other functional items. The 40 employees range in age from 21 to 80 years of age. Only three instructors oversee their work.

Nowhere in descriptions of this operation have I discovered answers to questions such as how toxic clay dust and glaze chemicals are kept out of the lungs and digestive tracts of the workers. (This can be difficult enough in ceramic studios employing normal individuals.) In fact, I do not know whether such problems have been considered. Another question is whether lead glazes are used. Lead is a crucial factor in this setting because an early effect of lead intoxication is a diminution of mental capacity, and these retarded workers can ill afford further incapacitation. Other glaze chemicals also can impair mental function or attack the central nervous sytem. Are any of these chemicals present in this studio's glazes? How, too, are the special problems of the elderly retarded workers addressed? And is hepatits B a problem?

A well designed project for the retarded should pay special attention to these questions and many more. Finding answers is even more important now that retarded and physically handi-

capped children are being mainstreamed into ordinary pubic school classes. Now general teachers and art teachers are being asked to cope daily with these children who have such very special needs. If retarded adults are at greater risk than others their age from toxic materials and infectious diseases, then retarded children are in even greater jeopardy.

I passed along all of this information to the teacher who asked about hepatits B and I am anxious to know how it may be put to use. The question, however, taught me more than I have been able to transmit to the teacher. She has my thanks for the inquiry. Its further ramifications will be explored in subsequent columns. ■

Teaching Art to High Risk Groups (Part II)

Art As Therapy

Art therapy programs are designed to help people overcome mental and adjust to physical problems. Perversely they sometimes employ hazardous art materials which may actually impair the mental or physical health of their participants. For example:

- Lead, known for its toxicity (especially on the central nervous system) and adverse effects on mental acuity, appears in enamels, glazes, and paints being used in art therapy programs for retarded children and adults who can ill afford further reduction of their mental capabilities.
- Methylene chloride, a chemical known to produce heart attacks, was used in a hospital furniture refinishing project to rehabilitate coronary bypass patients.
- Lithium carbonate, a toxic chemical used as a drug to control manic depression, appears in some ceramic glazes used by art therapy patients. Besides being potentially toxic to all the patients, lithium carbonate already may be used by some as a prescription drug. Additional exposure can seriously interfere with their mental and physical health.

Besides lead, lithium, and methylene chloride, many other toxic solvents, dyes, plastics, pigments, and metals are in the art therapy program materials. First some background about art therapy will aid in understanding the problem.

What Is Art Therapy?

Art therapy began to emerge after World War II in veterans' hospitals and recuperative centers and in psychiatric programs in metropolitan institutions. Now there are fully accredited art therapy training programs in institutions, colleges, universities, and medical schools throughout the United States, Great Britain, and on the European continent.

An art therapist's education usually includes courses in art (dance, music, fine arts, etc.), art therapy, psychology, sociology, anthropology, general studies, and electives. In addition, a therapist spends a considerable amount of time working with various populations as a paid or unpaid at therapist intern. Unfortunately, no training institution requires courses in the toxicity of art materials and the effects they might have on patients.

Briefly defined, art therapy is a means of non-verbal communication used to gain insight into and change maladaptive behavior patterns. In the strictest sense, art therapy is used only to diagnose and treat psychological illness. For example, a therapist might watch a disturbed child interact with art materials to better understand the child's problems, or might analyze an antisocial adult's drawing to help that patient modify or gain insight into his behavior. Several thousand accredited art therapists now are believed to be using art to diagnose and treat patients.

Other Therapies Employing Art

A looser and more common definition of "art therapy" is any art activity for children or adults who differ from the norm. These art therapy activities can include having burn patients flex stiff fingers by modeling clay, keeping bored institutionalized patients and prisoners busy, providing mild activity for recovering heart patients, or creating meaningful work or activities for the mentally retarded.

All these activities have as their principal aim to educate, recreate, or physically rehabilitate patients, not to diagnose or treat them. Those who practice this type of therapy come from various disciplines including degree programs in recreation therapy, occupational therapy, or other physical or psychological therapy programs. Many of these therapists employ art materials, craft materials, or industrial art materials in their work. Again, it is unlikely that these therapists have been educated sufficiently about the hazards of these materials.

In addition to these therapists with academic training, there are growing numbers (especially because of recent budget cuts) who have little or no training but who work on art projects with patients in hospitals, institutions, day care centers, special schools, and the like. Often these people are artists, craftspeople, hobbyists, or health professionals who have an additional interest in art. Some have no qualifications other than compassion and good will. Some may be paid, others volunteer. But all almost certainly are not sufficiently informed about the toxic chemicals in art supplies to appreciate the special problems these chemicals may create for the special individuals they treat.

Risk Factors For Special Populations

No matter what an art therapist's background, all deal with persons which have special problems—the mentally or physically impaired, the chronically ill, the routinely medicated, or the psychologically troubled.

There are a number of reasons why many of these people are at much higher risk from exposure to toxic art materials than are normal persons. Jo Ann Watzke, a graduate art therapy intern at Hahnemann Medical College and Graduate School in Philadelphia, helped put together the following list of high risk populations.

1) *The visually impaired.* A visually impaired person often has to get very close (1 or 2 inches) to the work in order to see. This means that dusts, vapors, or fumes are more likely to be inhaled. In addition, impaired vision might mean that the user accidentally gets more art materials than usual on the skin and clean uo might not be as effective. Dusts and spills are not likely to be noticed providing further chances for contamination.

2) *The physically handicapped.* These people often have to rely on feet, teeth, etc., to manipulate materials. Exposure through ingestion and skin contact is more likely. Clean up also is more difficult and may be a source of exposure.

3) *The retarded.* These individuals may not be able to understand the hazards of art materials, nor may it be possible to train them to take precautions. Hand-to-mouth and hand-to-eye contact are often more frequent in these indidivudals and can increase exposure.

4) *The asthmatic.* These patients already have difficulty in breathing and should not be subjected to dusts, fumes, or vapors. Medications taken by these patients should be investigated with respect to their possible effects on patients' concentration, alertness, and coordination, or for possible synergistic reactions with chemicals in art materials.

5) *Hyper- and hypo-active children.* Their ability to concentrate, to keep art materials and fingers out of their mouths, their tendency to have accidents, their medications, and more should be considered as possible hazards.

6) *Patients on mind-altering drugs.* Depressants, antipsychotic-medications and other chemcial therapies should be evaluated with respect to additional exposures during art work and with respect to synergistic or conflicting action with drugs. Some of

these patients also might ingest materials deliberately or otherwise abuse art materials.

7) *Children or geriatric patients.* These individuals are at high risk because of their ages. Neither age group is physically as capable as the average adult to resist the toxic effects of art materials.

8) *The hearing impaired.* Art Projects employing percussive hammering or noisy machinery (as in woodworking) may further damage already impaired hearing.

This is not a complete list of the problems art therapists might encounter in the populations they serve. It remains for art therapists to complete the list. It also remains for art therapists to improve their education about toxic art ingredients, to work out methods for determining the best art materials for each type of patient, and how to include explanations of hazards and precautions in art therapy sessions.

Teaching hazards and precautions to patients is especially important because the lessons may affect the patients years after they leave therapy. For example, some patients may decide to make the therapeutic art activity a life-long hobby, some may choose to earn their livings or part of their income from their art activity, some may choose to teach their craft or art to others on a regular basis. In all these situations, long-term exposures to toxic materials may result.

The psychological effects of art therapy, it is hoped, will benefit and last the patient a life time. Let us work to insure that no adverse physical effect from exposure to art materials detracts from these benefits. ■

Teaching Art to High Risk Groups (Part III)

Art for the Elderly

It may seem strange to consider elderly art material users in a column about children's art hazards, but no discussion of high risk groups would be complete without considering the older adult.

Both children and older adults run higher risks than other groups from chemical exposures, but the physiological causes are quite different. Children's high risk is due to factors relating to their size, growth, and development. The increased risk to older adults primarily results from physiological changes due to the normal process of aging, and from the increased likelihood that they have chronic illnesses.

1) *Physiological changes due to aging* affect all three routes by which toxic materials enter the body: skin contact, inhalation, and ingestion.

Skin absorption and skin damage are influenced because older adults' skin is thinner and dryer. Age reduces the skin's capacity to resist damage or penetration by toxic materials.

Inhalation of toxic dusts, fumes, and vapors poses more of a threat to the elderly because lung capacity decreases with age, and protective lung clearing mechanisms usually become less efficient. This means that toxic materials may remain for a longer time in a lung whose capacity is already diminished. Damage to the lung and absorption of toxic materials into the body are more likely under these circumstances.

In addition, visual acuity diminishes with age, and such a loss may mean that some elderly will work closer to their materials and thus inhale more toxic substances. They also may not see or smell vapors, airborne dusts, and powders, and thus they well may be less aware that they are inhaling materials.

Loss of visual acuity also contributes to accidental ingestion. Poor eyesight may cause individuals not to see settled dust on work surfaces, smudges on hands, or small splashes and spills which can be picked up on hands, food, or cigrettes. Poor eyesight may even cause someone to pick up the wrong container to drink from, thus swallowing liquids like paint or solvents (though on occasion people with 20/20 vision have been known to do just this).

In addition, old habits learned before general awareness developed about toxic art materials may contribute to accidental ingestion. Examples include wetting thread to thread a needle, smoothing modeling materials with saliva, licking fingers to turn pages, and more. Small amounts of toxic dusts and liquids could reach the mouth and enter the digestive tract by means of these and other hand-to-mouth-contact habits.

Once toxic materials have entered the body through skin absorption, inhalation, or ingestion, the older adult's body is usually not as capable of repairing itself or handling the toxic materials as a younger adult's body. Toxins which attack the heart, kidney, liver, or other internal organs, may cause greater damage because age may have rendered these organs less capable of resisting and detoxifying the substances.

2) *The increased likelihood of chronic illness* in older adults is also a factor in the increased risk. Chronic skin conditions, lung disabilities such as chronic bronchitis or emphysema, and systemic illnesses of the kidney or heart may all exacerbate harm from exposures.

In addition, medications taken for these and other conditions may interact with toxic substances in art materials, Experts agree that very little is known about such interactions. However, it is known that medications and certain foods can react adversely. For example, in the past when amine oxidase-inhibiting mood altering drugs were used, serious complications would arise when the patient would ingest cheese, wine, or some other amine-containing food. Perhaps amines present in amine catalysts for plastic casting would also have interacted with the drug in exposed individuals.

Another example might be the interaction between Antabuse (a drug used in the management of chronic alcoholic patients) and alcohol inhaled or skin-absorbed during the use of alcohol-containing art materials such as shellac or lacquer thinners.

There are many questions about drug and toxic substance interaction which should be answered. For example, there are many drugs other than Antabuse for which ethyl alcohol consumption is contraindicated. Are there hazards to patients taking these drugs from exposure to solvents other than ethanol? Should drugs which decrease mental alertness or narcotics be used with solvents (which are also narcotics)? Do vasodilating drugs increase absorption of toxic substances in the lungs? How hazardous is the combination of a drug and a toxic substance when both target the same organ?

Since these and many other questions are unanswered, prudence would dictate caution when planning art projects for students on medications.

Instructional and Environmental Factors

The problems of the older art student are exacerbated by the lack of instruction about art hazards, and the generally poor environment in which art is pursued in schools, senior centers, hosipitals, and the home.

1) *Lack of instruction about art hazards* is common in classes for the elderly. Teachers in leisure activity and recreation programs often possess minimal technical information about arts and crafts, since they frequently are volunteers, self-taught, or hobbyists. These teachers are not likely to know what chemicals are in their art supplies, nor are they likely to be able to teach about the hazards of these materials.

Even if the teachers are professional artists or art teachers, they still are not likely to teach or know about art hazards. And both professional and non-professional instructors alike can be expected to know very little about the physiological problems of their elderly students.

Older adults in hospital and institutional art programs do not always fare better. Budget cuts and tradition often result in assignment of art and craft program duties to the same kinds of volunteers and part-time teachers who handle leisure and recreational programs.

Older adults in art therapy or physical therapy programs may be more fortunate. Many of these instructors at least understand their students' physical limitations.

In general, teachers in institutions, hospitals, schools, senior centers, or in home-bound programs are not versed in art hazards. And some are not cognizant of the elderly student's special physical problems.

2) *The environments* in which arts and crafts are pursued often are not conducive to reducing exposure to toxic materials. Schools, hopsitals, studios, senior centers, and private homes usually are not good places to practice arts and crafts except when projects call for minimally hazardous materials such as those used in stitchery, sewing, and related arts, pencil drawing, water coloring, and the like.

Projects employing more toxic materials than these require some ventilation, sufficient space, and tables and equipment which facilitate easy and thorough clean-up. Many schools and centers do not meet these requirements.

Homes in which adults pursue art projects or in which instructors of the home-bound elderly teach usually are equally unsuitable. In many instances cooking utensils, kitchen tables, chair, and other items will be employed and contaminated during a project. Dust and fumes can contaminate the air and settle throughout the house. Projects using flammable materials or solvents can create a fire hazard as well.

Teachers of the home-bound or teachers who assign work which can be done at home should constantly consider home environment limitations when they choose art materials or projects.

Exceptions

Despite all the general physical and environmental limitations, some elderly persons are quite capable of handling very toxic art materials. These people should be free of serious illness, be very alert mentally, know the hazards of their materials and how to work safely with them, and have a level of skill and coordination commensurate with the demands of the art project. And they must practice the art in a suitable location. After all, artists like Picasso and Grandma Moses worked into their nineties. One can only wonder about their working conditions and habits. As for their ability, no speculation is required. ■

Teaching Art to High Risk Groups (IV)

Choosing Art Materials

The last three Young at Art columns discussed the hazards and problems of teaching art to high risk populations such as the retarded, the handicapped, children, and the elderly.

This column considers how to choose art materials which might be safe for these same high risk populations.

Know your Students/Patients

1) *The physical limitations* of your students should be evaluated carefully. Be especially careful not to overestimate students' abilities or their improvement under tutelage out of your optimism and sense of caring. Miscalculations of a student's abilities could result in injury to the student and liability for the teacher.

2) *The psychological needs* of your students should be studied to determine which art projects will interest and benefit them and what level of supervision they need in order to learn efficiently and to prevent accidents or abuse of materials.

3) *The illnesses affecting students* should be well understood by the teachers. Teachers should be able to recognize symptoms or danger signals, and they should know who to call or what to do in emergencies. They also should be aware of any art material ingredients which might exacerbate an illness or conflict with medications taken by the patient.

Once the student has been evaluated, the instructor still must choose safe art materials and projects. Here is a list of attributes which you and your supplier should look for in products.

Attributes of a Safe Art Material

1) *No toxic ingredients*. The ingredients' level of toxicity should be so low that harm would not come to the student even if he or she ingested considerable amounts or if any other foreseeable abuse of the product were to occur.

2) *No allergens or sensitizing ingredients*. Chemicals known to produce allergic responses in many people should not be present.

3) *No inhalable materials*. The product should not produce dusts, vapors, or fumes during use.

4) *No chemical incompatibility with common substances*. Chemicals in the art material should not be capable of reacting with other art materials, other chemicals found in common substances, or household products so as not to produce dangerous substances or to ignite or explode.

5) *No unsafe procedures*. Products whose use requires heat, flame, sharp instruments, electric tools, or percussive hammering should not be used.

6) *No staining*. Products which create permanent stains or damage clothing or skin should be eliminated.

7) *Simple cleanup*. Products should not require complex cleanup procedures.

Not all these attributes need apply to art materials for all high risk students. Once teachers have evaluated students, they may decide that a particular student can handle sharp instruments safely, will be able to work with slightly toxic materials, or that a particular chemical is not likely to provoke allergic response or interfere with a particular student's medication.

Unfortunatley, it is necessary to know what chemicals are in art materials in order to make these judgments. Yet most art materials' labels do not list ingredients, and most art material manufacturers will not divulge complete ingredient information.

Labeling laws presently apply only to acutely toxic subsances and require only warnings about these acute hazards. The law does not cover chronic or long-term hazards. Teachers should have much more information than this in order to protect their students. For example, chronic hazards should be included on labels to protect students who may be at special risk from these chemicals or who may be exposed to art materials regularly as in shops or studios where handicapped or retarded individuals make objects for sale.

Ingredients which are known to provoke allergy or sensitivity should be listed on labels to protect the allergic or asthmatic individual.

Moderately or slightly toxic ingredients which might not be very hazardous to the general public may be very hazardous to students who might be accidentally or deliberately ingest or inhale considerable amounts.

Non-toxic ingredients also should be listed on labels. For example, wheat flour is not considered toxic. It is a common ingredient in some pastes and modeling compounds. Yet a teacher of a child who is allergic to wheat should know that wheat is present in these materials before starting a product which may result in dermatitis or asthma.

The fact is that complete ingredient labeling should be provided on materials for high risk populations so that in case of

accidents, deliberate abuse of the product, or sensitivity or reactions to the materials, teachers, doctors, and emergency room personnel can have this information immediately available.

This ideal is far from reality. And teachers must choose art materials now, not at some future time when labeling laws may be altered.

An acceptable answer to the problem does exist. Teachers can choose from the products approved for children by the Art and Crafts Materials Institute (ACMI, formerly called the Crayon, Watercolor, and Craft Institute). These products can be identified by the AP or CP seal on their packages. According to ACMI, the seal means that "these products are certified by a nationally recognized authority on toxicology associated with a leading university to contain no materials in sufficient quantities to be toxic or injurious to the human body even if ingested."

However these products were intended to be safe for use with ordinary children. Special children, or children and adults with serious limitations or illnesses may be more susceptible to art material chemicals.

I discussed this problem with ACMI's toxicologist, Dr. Woodhall Stopford. Dr. Stopford suggested that teachers of high risk individuals write him if they have questions about AP or CP seal products.

With Dr. Stopford's offer in mind, I can wholeheartedly recommend that teachers of high risk individuals investigate the AP and CP seal products. Some of the products which might be acceptable include temperas, watercolor, crayons, a wide variety of dustless white and colored chalks, fingerpaints, a water-based block printing ink, pastes, adhesives, an oil pastel crayon, and modeling clay.

In addition, the ACMI is considering even more products for approval. Some acrylic paints may be approved in the near future.

For a list of the AP and CP seal products or for advice from Dr. Stopford write:

The Art and Crafts Materials Institutes, Inc.
715 Boylston Street
Boston, MA 02116

There are probably many suitable products besides those approved by ACMI. However without either the assurance of a toxicologist or complete ingredient information, they cannot be recommended. If there are unapproved products which you would like to use, you might contact their manufacturers and explain your special need for ingredient information, perhaps enclosing a copy of this column by way of explanation.

Arts and crafts can be very rewarding and helpful to the retarded, the handicapped, children, the elderly and other high risk populations. Only constant vigilance about the materials they use can keep the rewards from becoming calamities. ■

For Elementary And Secondary Art Teachers

Art Curriculum Changes Proposed

When lecturing about hazardous art materials, I often find some teachers reluctant to stop using hazardous materials. They hesitate especially to give up materials which are essential in their favorite art projects. As a teacher myself, I can understand their hesitancy. We are pressured by students, parents, and administrators to devise art projects which result in professional-looking products and which are novel and fun to do. Often we see that the most popular teacher is the one with the largest bag of art tricks. Perhaps it is time to take another look at art projects in general.

Teaching art through a series of individual projects is a method which originated several decades ago when public school art was generally taught on Friday afternoons, as part of a holiday celebration, or as a hall-decorating effort. The approach is still common today.

Teaching art through projects has two major disadvantages: first, hazardous art materials commonly enter the classroom by means of such projects; second, children come to expect to be amused rather than educated.

The major reason hazardous art materials come to be used in art projects is that the sources from which teachers collect these projects are not reliable. Common sources include curriculum guides, art materials advertisements and handouts, and art magazines. For examble, I have seen curriculum guides for children (K-6) suggest projects using benzene, carbon tetrachloride, and asbestos. Other guides I have seen suggest using paint and magic markers to decorate the face and body, blowing paint through straws (risking accidental inhalation or ingestion of paint), and dripping household bleach onto colored paper to make designs. Art materials salesmen have touted magic markers which smell like different fruits (we have enough trouble keeping things out of children's mouths), lead glazes and enamels for children, hazardous naphthol dye projects, and silk screen and photo developing kits for young children. Art magazines also suggest hazardous projects. The November issues of *School Arts* suggests a glaze which contains white lead - a substance not suitable either for adults or children.

The second disadvantage of teaching art through a series of projects is that children receive instant gratification in the form of amusing activities or take-home items like holiday gifts. There is nothing wrong with children enjoying art and making holiday projects, but when these objectives are primary and learning something about art is secondary (or not considered at all), the education of the child becomes more and more accidental and incidental. Art classes, after all, should teach, not entertain.

What is needed instead is a coordinated curriculum which would demand attention to art history, skill development, awareness training, and sequential learning. One such program has been tried in the schools of Jefferson County, Colorado. It is described by Jefferson County Art Coordinator Larry T. Schultz in an article called "A Studio Curriculum for Art Education" in the October issue of *Art Education* magazine.

Mr. Schultz's plan prescribes teaching single art disciplines for long periods of time and it prohibits jumping from one project to another almost daily. For example, at the elementary level, drawing is taught one period a day for six weeks, followed by a similar period of painting, and subsequently by six weeks each of printmaking and several other crafts. These periods are extended to nine weeks for junior high and to a semester for senior high classes. Sequential art history lessons beginning with prehistoric art and ending with contemporary art, accompany these classes.

With this schedule, teachers had to make fewer preparations, to undertake less project hunting, digging for materials, and rearranging of rooms to accommodate each new activity.

Mr. Schultz also found that it was easier to get funds for this art curriculum. With it, he could justify his budget for films, slides, books and other resources to support art lessons with appropriate art history and related materials.

The curriculum changes also made it possible for art teachers to teach only those facets of art in which they had some expertise. They did not have to be generalists who teach both

those areas for which they are best suited and the areas for which they are relatively unprepared, doing what they can to accommodate students who are interested in them.

Students also appreciated the new program. Senior high enrollment in art classes grew from less than 10 per cent of the total school population to between 25 and 35 per cent. Junior high enrollments grew from less than 20 per cent to 50 per cent.

This kind of program also could assist in planning curriculum health and safety as in selecting and coordinating proper art materials for each age group. In ceramics, for instance, clay and water-based paints would be used with children under twelve, while those over twelve would begin using a few carefully selected glazes containing only moderately toxic ingredients. A wider choice of glazes could be given to senior high students.

Appropriate technical lessons about art materials also could be planned for each grade level. These lessons would discuss the ingredients in the materials and how these materials work. For example, children would be told what paints are made of and what happens when they dry and harden. Next the materials should be discussed in terms of what their ingredients can do to the body if they are misused and how the materials should be used to prevent accidents or illness.

Other advantages to this plan involve art materials inventories. Ordering could be easily monitored; the curriculum would require only a limited number of supplies rather than a wide variety for many projects; large amounts would be needed, and large orders are not only cheaper, but schools which place them have more leverage when they seek product ingredient information and Materials Safety Data Sheets from manufacturers. (We suggest that this information be included as a requirement for submitting bids.) Ingredient information is useful in selecting the least toxic materials and for providing school nurses and other health and safety personnel with proper information in case of accidents or illness involving the materials.

Classroom planning, too, would be easier with this plan. Rooms would be used for only one or two different crafts, rather than for many projects. Such rooms would be easier to set up, outfit with safety equipment, and ventilate properly than general art rooms.

Finally, children with handicaps or health problems are more easily accommodated in such programs. For example, allergic children could be directed into programs which would not provoke their symptoms, and retarded children might be mainstreamed into drawing classes rather than into classes where more hazardous materials are used. In general art rooms, such children might have to leave the room or sit out potentially harmful projects.

For these and many other reasons, I endorse the kind of plan suggested by Mr. Schultz. I also know from personal experience that this kind of teaching can work. Although new to many public schools, some schools, especially some art schools, have used similar plans. I taught such classes in painting and found that at first some children expected something brand new every day. I especially remember one child who on the second day said, "I've done this before." My answer was, "Fine, now let's try getting good at it." He did and he loved it. ■

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